|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1. A pint of water (on Earth) is approximately   |  |  |  | | --- | --- | --- | |  | a. | 1 pound. | |  | b. | 1 gram. | |  | c. | 1 kilogram. | |  | d. | 1 quart. |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *QUESTION TYPE:* | Multiple Choice | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 2. Historically, which measurement may have been defined as the distance from the royal nose to the thumb of the royal outstretched arm?   |  |  |  | | --- | --- | --- | |  | a. | 1 foot | |  | b. | 1 yard | |  | c. | 1 meter | |  | d. | 1 kilometer |  |  |  | | --- | --- | | *ANSWER:* | b | | *POINTS:* | 1 | | *QUESTION TYPE:* | Multiple Choice | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 3. In a debate, is the statement "It's only a theory" a valid argument point against a theory (as in "The theory of evolution is wrong because it's only a theory")?   |  |  |  | | --- | --- | --- | |  | a. | Yes, theories are weak. | |  | b. | No, theories are strong. | |  | c. | No, theories are weak. | |  | d. | Yes, theories are meaningless. |  |  |  | | --- | --- | | *ANSWER:* | b | | *POINTS:* | 1 | | *QUESTION TYPE:* | Multiple Choice | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 4. Which of the following is *not* considered a major physical science:   |  |  |  | | --- | --- | --- | |  | a. | Physics | |  | b. | Astronomy | |  | c. | Geology | |  | d. | Biology | |  | e. | Meteorology |  |  |  | | --- | --- | | *ANSWER:* | d | | *POINTS:* | 1 | | *QUESTION TYPE:* | Multiple Choice | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 5. The word *science* comes from the Latin word meaning   |  |  |  | | --- | --- | --- | |  | a. | "experiment." | |  | b. | "investigate." | |  | c. | "knowledge." | |  | d. | "debate." |  |  |  | | --- | --- | | *ANSWER:* | c | | *POINTS:* | 1 | | *QUESTION TYPE:* | Multiple Choice | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 6. The most information about our environment comes to us through the sense of   |  |  |  | | --- | --- | --- | |  | a. | smell. | |  | b. | sight. | |  | c. | hearing. | |  | d. | touch. |  |  |  | | --- | --- | | *ANSWER:* | b | | *POINTS:* | 1 | | *QUESTION TYPE:* | Multiple Choice | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 7. Our senses may obtain less-than-accurate information concerning our physical world because they   |  |  |  | | --- | --- | --- | |  | a. | have limited sensitivity. | |  | b. | have a limited range. | |  | c. | are useless. | |  | d. | can be deceived. |  |  |  | | --- | --- | | *ANSWER:* | d | | *POINTS:* | 1 | | *QUESTION TYPE:* | Multiple Choice | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 8. A quantitative observation that is the basis of scientific investigation is a(n)   |  |  |  | | --- | --- | --- | |  | a. | experiment. | |  | b. | measurement. | |  | c. | explanation. | |  | d. | number. |  |  |  | | --- | --- | | *ANSWER:* | b | | *POINTS:* | 1 | | *QUESTION TYPE:* | Multiple Choice | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 9. A scientific law describes   |  |  |  | | --- | --- | --- | |  | a. | the scientific method. | |  | b. | a fundamental relationship of nature. | |  | c. | the behavior of nature. | |  | d. | an experiment. |  |  |  | | --- | --- | | *ANSWER:* | b | | *POINTS:* | 1 | | *QUESTION TYPE:* | Multiple Choice | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 10. A very tentative explanation of observations of some regularity of nature is a(n)   |  |  |  | | --- | --- | --- | |  | a. | scientific law. | |  | b. | theory. | |  | c. | experiment. | |  | d. | hypothesis. |  |  |  | | --- | --- | | *ANSWER:* | d | | *POINTS:* | 1 | | *QUESTION TYPE:* | Multiple Choice | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 11. A successfully tested hypothesis may take on the status of a(n)   |  |  |  | | --- | --- | --- | |  | a. | experimental result. | |  | b. | theory. | |  | c. | scientific law. | |  | d. | concept. | |  | e. | superior hypothesis. |  |  |  | | --- | --- | | *ANSWER:* | b | | *POINTS:* | 1 | | *QUESTION TYPE:* | Multiple Choice | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 12. A standard unit   |  |  |  | | --- | --- | --- | |  | a. | is the same in all systems of units. | |  | b. | may not be fixed in value. | |  | c. | is found only in the British system. | |  | d. | is used for taking accurate measurements. | |  | e. | is found only in the metric system. |  |  |  | | --- | --- | | *ANSWER:* | d | | *POINTS:* | 1 | | *QUESTION TYPE:* | Multiple Choice | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 13. The standard unit of time is the   |  |  |  | | --- | --- | --- | |  | a. | hour. | |  | b. | day. | |  | c. | second. | |  | d. | minute. |  |  |  | | --- | --- | | *ANSWER:* | c | | *POINTS:* | 1 | | *QUESTION TYPE:* | Multiple Choice | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 14. Which of the following is *not* a fundamental quantity?   |  |  |  | | --- | --- | --- | |  | a. | Weight | |  | b. | Length | |  | c. | Time | |  | d. | Mass |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *QUESTION TYPE:* | Multiple Choice | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 15. Which fundamental quantity does the average person measure most often every day?   |  |  |  | | --- | --- | --- | |  | a. | Mass | |  | b. | Length | |  | c. | Time | |  | d. | Electric charge |  |  |  | | --- | --- | | *ANSWER:* | c | | *POINTS:* | 1 | | *QUESTION TYPE:* | Multiple Choice | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 16. Which has a larger mass, a liter of water or a liter of mercury (a liquid metal)?   |  |  |  | | --- | --- | --- | |  | a. | mercury | |  | b. | water | |  | c. | none of these |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *QUESTION TYPE:* | Multiple Choice | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 17. Which has a larger volume, a liter of water or a liter of mercury (a liquid metal)?   |  |  |  | | --- | --- | --- | |  | a. | water | |  | b. | mercury | |  | c. | none of these |  |  |  | | --- | --- | | *ANSWER:* | c | | *POINTS:* | 1 | | *QUESTION TYPE:* | Multiple Choice | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 18. The mass of a cubic meter of water is   |  |  |  | | --- | --- | --- | |  | a. | 1 metric ton. | |  | b. | 100 kg. | |  | c. | 100 L. | |  | d. | 1 lb. |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *QUESTION TYPE:* | Multiple Choice | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 19. Which statement is *incorrect*?   |  |  |  | | --- | --- | --- | |  | a. | A kilogram has an equivalent weight greater than that of a pound. | |  | b. | A kilometer is longer than a mile. | |  | c. | A meter is longer than a yard. | |  | d. | A liter is larger than a quart. |  |  |  | | --- | --- | | *ANSWER:* | b | | *POINTS:* | 1 | | *QUESTION TYPE:* | Multiple Choice | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 20. Which has more volume, a liter or a quart?   |  |  |  | | --- | --- | --- | |  | a. | A liter | |  | b. | A quart | |  | c. | Both are the same | |  | d. | Neither describes volume |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *QUESTION TYPE:* | Multiple Choice | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 21. Which of the following is *not* a standard metric unit?   |  |  |  | | --- | --- | --- | |  | a. | Kilogram | |  | b. | Meter | |  | c. | Second | |  | d. | Gram |  |  |  | | --- | --- | | *ANSWER:* | d | | *POINTS:* | 1 | | *QUESTION TYPE:* | Multiple Choice | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 22. The standard unit of mass in the mks system is the   |  |  |  | | --- | --- | --- | |  | a. | meter | |  | b. | kilogram | |  | c. | pound | |  | d. | second | |  | e. | gram |  |  |  | | --- | --- | | *ANSWER:* | b | | *POINTS:* | 1 | | *QUESTION TYPE:* | Multiple Choice | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 23. The standard unit of time in the mks system is the   |  |  |  | | --- | --- | --- | |  | a. | meter | |  | b. | kilogram | |  | c. | second | |  | d. | minute | |  | e. | microsecond |  |  |  | | --- | --- | | *ANSWER:* | c | | *POINTS:* | 1 | | *QUESTION TYPE:* | Multiple Choice | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 24. The standard unit of distance in the mks system is the   |  |  |  | | --- | --- | --- | |  | a. | centimeter | |  | b. | inch | |  | c. | kilometer | |  | d. | meter | |  | e. | second |  |  |  | | --- | --- | | *ANSWER:* | d | | *POINTS:* | 1 | | *QUESTION TYPE:* | Multiple Choice | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 25. The standard unit of length, the meter, is now defined with reference to   |  |  |  | | --- | --- | --- | |  | a. | a meridian on the Earth. | |  | b. | the French meter. | |  | c. | the speed of light. | |  | d. | a platinum-iridium bar. | |  | e. | a member of the royal family. |  |  |  | | --- | --- | | *ANSWER:* | c | | *POINTS:* | 1 | | *QUESTION TYPE:* | Multiple Choice | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 26. The standard unit of time, the second, is now defined with reference to   |  |  |  | | --- | --- | --- | |  | a. | the Earth's revolution period. | |  | b. | the mean solar day. | |  | c. | the cesium-133 atom. | |  | d. | the Earth's rotation period. |  |  |  | | --- | --- | | *ANSWER:* | c | | *POINTS:* | 1 | | *QUESTION TYPE:* | Multiple Choice | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 27. The current definition of a kilogram is the mass of a platinum-iridium cylinder kept in   |  |  |  | | --- | --- | --- | |  | a. | the United States. | |  | b. | France. | |  | c. | England. | |  | d. | Japan. |  |  |  | | --- | --- | | *ANSWER:* | b | | *POINTS:* | 1 | | *QUESTION TYPE:* | Multiple Choice | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 28. In what year did the United States officially adopt the metric system?   |  |  |  | | --- | --- | --- | |  | a. | 1893 | |  | b. | 1995 | |  | c. | 2011 | |  | d. | 1776 | |  | e. | none of these |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *QUESTION TYPE:* | Multiple Choice | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 29. The meter was defined originally as   |  |  |  | | --- | --- | --- | |  | a. | one ten-millionth of the diameter of Earth. | |  | b. | one ten-millionth of the distance from the equator to the North Pole. | |  | c. | the wavelength of a line in the spectrum of krypton-86. | |  | d. | the length of a platinum-iridium bar. |  |  |  | | --- | --- | | *ANSWER:* | b | | *POINTS:* | 1 | | *QUESTION TYPE:* | Multiple Choice | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 30. The meter is presently defined as   |  |  |  | | --- | --- | --- | |  | a. | one ten-millionth of the diameter of Earth. | |  | b. | the wavelength of a line in the spectrum of krypton-86. | |  | c. | the length of a platinum-iridium bar. | |  | d. | the distance light travels in a vacuum in a very short time. |  |  |  | | --- | --- | | *ANSWER:* | d | | *POINTS:* | 1 | | *QUESTION TYPE:* | Multiple Choice | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 31. The metric prefix that means one-hundredth (1/100) is   |  |  |  | | --- | --- | --- | |  | a. | kilo-. | |  | b. | centi-. | |  | c. | mega-. | |  | d. | milli-. |  |  |  | | --- | --- | | *ANSWER:* | b | | *POINTS:* | 1 | | *QUESTION TYPE:* | Multiple Choice | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 32. The metric prefix that means one-thousandth (1/1000) is   |  |  |  | | --- | --- | --- | |  | a. | kilo-. | |  | b. | centi-. | |  | c. | milli-. | |  | d. | nano-. |  |  |  | | --- | --- | | *ANSWER:* | c | | *POINTS:* | 1 | | *QUESTION TYPE:* | Multiple Choice | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 33. The metric prefix that means one thousand (1000) is   |  |  |  | | --- | --- | --- | |  | a. | kilo-. | |  | b. | centi-. | |  | c. | mega-. | |  | d. | milli-. |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *QUESTION TYPE:* | Multiple Choice | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 34. The metric prefix that means one million (1,000,000) is   |  |  |  | | --- | --- | --- | |  | a. | centi-. | |  | b. | mega-. | |  | c. | milli-. | |  | d. | nano-. |  |  |  | | --- | --- | | *ANSWER:* | b | | *POINTS:* | 1 | | *QUESTION TYPE:* | Multiple Choice | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 35. The metric prefix that means ten (10) is   |  |  |  | | --- | --- | --- | |  | a. | deci | |  | b. | deka | |  | c. | milli | |  | d. | centi | |  | e. | kilo |  |  |  | | --- | --- | | *ANSWER:* | b | | *POINTS:* | 1 | | *QUESTION TYPE:* | Multiple Choice | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 36. The metric prefix that means one tenth (1/10) is   |  |  |  | | --- | --- | --- | |  | a. | deka | |  | b. | deci | |  | c. | centi | |  | d. | milli | |  | e. | none of these |  |  |  | | --- | --- | | *ANSWER:* | b | | *POINTS:* | 1 | | *QUESTION TYPE:* | Multiple Choice | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 37. A cubic centimeter of pure water at maximum density has a mass of   |  |  |  | | --- | --- | --- | |  | a. | 1 g. | |  | b. | 1 kg. | |  | c. | 1 cg. | |  | d. | 1 lb. | |  | e. | none of these |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *QUESTION TYPE:* | Multiple Choice | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 38. In the SI, m is the symbol for   |  |  |  | | --- | --- | --- | |  | a. | mass. | |  | b. | meter. | |  | c. | mole. | |  | d. | metric. |  |  |  | | --- | --- | | *ANSWER:* | b | | *POINTS:* | 1 | | *QUESTION TYPE:* | Multiple Choice | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 39. Which of the following is a unit of mass density?   |  |  |  | | --- | --- | --- | |  | a. | kg/m3 | |  | b. | g/cm2 | |  | c. | lb/ft3 | |  | d. | lb/ft2 |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *QUESTION TYPE:* | Multiple Choice | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 40. One kilogram is the same as   |  |  |  | | --- | --- | --- | |  | a. | 1000 g. | |  | b. | 1/1000 kg. | |  | c. | 10,000 g. | |  | d. | 0.001 g. |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *QUESTION TYPE:* | Multiple Choice | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 41. An object's weight would be different on Earth and on the Moon. Which of the following would also be different?   |  |  |  | | --- | --- | --- | |  | a. | Mass density | |  | b. | Mass | |  | c. | Length | |  | d. | Volume | |  | e. | None of these |  |  |  | | --- | --- | | *ANSWER:* | e | | *POINTS:* | 1 | | *QUESTION TYPE:* | Multiple Choice | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 42. An object transported from Earth's surface to the surface of the Moon has   |  |  |  | | --- | --- | --- | |  | a. | the same mass, but different weight. | |  | b. | the same weight, but different mass. | |  | c. | the same mass and the same weight. | |  | d. | different mass and different weight. | |  | e. | none of these. |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *QUESTION TYPE:* | Multiple Choice | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 43. In buying a product, a shopper has a choice of the following amounts, all at the same price. Which is the best buy?   |  |  |  | | --- | --- | --- | |  | a. | 432 cc | |  | b. | 1 pint | |  | c. | 1 half-liter | |  | d. | 450 mL |  |  |  | | --- | --- | | *ANSWER:* | c | | *POINTS:* | 1 | | *QUESTION TYPE:* | Multiple Choice | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 44. A hydrometer is used to measure   |  |  |  | | --- | --- | --- | |  | a. | the time for an object to sink. | |  | b. | water (hydro). | |  | c. | the volume of a quantity of water. | |  | d. | liquid density. |  |  |  | | --- | --- | | *ANSWER:* | d | | *POINTS:* | 1 | | *QUESTION TYPE:* | Multiple Choice | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 45. Which of the following is *not* a derived quantity?   |  |  |  | | --- | --- | --- | |  | a. | Volume | |  | b. | Speed | |  | c. | Mass | |  | d. | Density |  |  |  | | --- | --- | | *ANSWER:* | c | | *POINTS:* | 1 | | *QUESTION TYPE:* | Multiple Choice | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 46. The International System of Units (SI) has \_\_\_\_\_\_\_\_\_\_\_\_\_\_ base units.   |  |  |  | | --- | --- | --- | |  | a. | four | |  | b. | six | |  | c. | seven | |  | d. | five |  |  |  | | --- | --- | | *ANSWER:* | c | | *POINTS:* | 1 | | *QUESTION TYPE:* | Multiple Choice | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 47. What is the mass of 25 cm3 of pure water?   |  |  |  | | --- | --- | --- | |  | a. | None of these | |  | b. | 25 kg | |  | c. | 25 g | |  | d. | 25 mL |  |  |  | | --- | --- | | *ANSWER:* | c | | *POINTS:* | 1 | | *QUESTION TYPE:* | Multiple Choice | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 48. A derived unit   |  |  |  | | --- | --- | --- | |  | a. | involves only length. | |  | b. | is a combination of units. | |  | c. | applies only to density. | |  | d. | is not found in the metric system. |  |  |  | | --- | --- | | *ANSWER:* | b | | *POINTS:* | 1 | | *QUESTION TYPE:* | Multiple Choice | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 49. A metric ton (or tonne) is   |  |  |  | | --- | --- | --- | |  | a. | the same as a British ton. | |  | b. | not defined. | |  | c. | a mass unit. | |  | d. | a weight unit. |  |  |  | | --- | --- | | *ANSWER:* | c | | *POINTS:* | 1 | | *QUESTION TYPE:* | Multiple Choice | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 50. Which of the following quantities expressed in derived units includes the unit of length?   |  |  |  | | --- | --- | --- | |  | a. | Area | |  | b. | Volume | |  | c. | Speed | |  | d. | Density | |  | e. | All of these |  |  |  | | --- | --- | | *ANSWER:* | e | | *POINTS:* | 1 | | *QUESTION TYPE:* | Multiple Choice | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 51. Density describes   |  |  |  | | --- | --- | --- | |  | a. | mass per unit volume. | |  | b. | length per unit time. | |  | c. | volume per liter. | |  | d. | weight per mass. |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *QUESTION TYPE:* | Multiple Choice | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 52. A relationship such as 1 in. = 2.54 cm is a(n)   |  |  |  | | --- | --- | --- | |  | a. | equivalence statement. | |  | b. | base unit. | |  | c. | derived unit. | |  | d. | fundamental quantity. |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *QUESTION TYPE:* | Multiple Choice | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 53. A method of expressing the accuracy of measured quantities is   |  |  |  | | --- | --- | --- | |  | a. | metric prefixes. | |  | b. | derived units. | |  | c. | significant figures. | |  | d. | conversion factors. |  |  |  | | --- | --- | | *ANSWER:* | c | | *POINTS:* | 1 | | *QUESTION TYPE:* | Multiple Choice | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 54. When multiplying and/or dividing quantities, you should report   |  |  |  | | --- | --- | --- | |  | a. | the result rounded to the same number of digits as there are in the quantity with the greatest number of significant figures. | |  | b. | all the digits that show on your calculator. | |  | c. | only whole numbers. | |  | d. | the result rounded to the same number of digits as there are in the quantity with the least number of significant figures. |  |  |  | | --- | --- | | *ANSWER:* | d | | *POINTS:* | 1 | | *QUESTION TYPE:* | Multiple Choice | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 55. Rounding the number 200.601 to three significant figures   |  |  |  | | --- | --- | --- | |  | a. | gives 199. | |  | b. | gives 200. | |  | c. | gives 200.601 | |  | d. | gives 201. | |  | e. | cannot be done. |  |  |  | | --- | --- | | *ANSWER:* | d | | *POINTS:* | 1 | | *QUESTION TYPE:* | Multiple Choice | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 56. Expressed in standard powers-of-10 notation and rounded to four significant figures, the number 0.00023648 is   |  |  |  | | --- | --- | --- | |  | a. | 2.364 × 103. | |  | b. | 2.365 × 104. | |  | c. | 2.365 × 10-4. | |  | d. | 236.4 × 10-6. |  |  |  | | --- | --- | | *ANSWER:* | c | | *POINTS:* | 1 | | *QUESTION TYPE:* | Multiple Choice | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 57. One microgram (μg) contains how many grams?   |  |  |  | | --- | --- | --- | |  | a. | 10-3 | |  | b. | 10-6 | |  | c. | 10-9 | |  | d. | 103 |  |  |  | | --- | --- | | *ANSWER:* | b | | *POINTS:* | 1 | | *QUESTION TYPE:* | Multiple Choice | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 58. One megawatt contains how many watts?   |  |  |  | | --- | --- | --- | |  | a. | 103 | |  | b. | 10-6 | |  | c. | 106 | |  | d. | 10-3 |  |  |  | | --- | --- | | *ANSWER:* | c | | *POINTS:* | 1 | | *QUESTION TYPE:* | Multiple Choice | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 59. The speed of light in a vacuum is 300,000,000 m/s. Represented in powers-of-10 notation, this is   |  |  |  | | --- | --- | --- | |  | a. | 30 × 108m/s. | |  | b. | 3 × 107m/s. | |  | c. | 30 × 106m/s. | |  | d. | 3 × 108m/s. |  |  |  | | --- | --- | | *ANSWER:* | d | | *POINTS:* | 1 | | *QUESTION TYPE:* | Multiple Choice | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 60. A measurement of 0.00254 g is the same as   |  |  |  | | --- | --- | --- | |  | a. | 0.254 mg. | |  | b. | 25.4 mg. | |  | c. | 254 mg. | |  | d. | 2.54 mg. | |  | e. | none of these. |  |  |  | | --- | --- | | *ANSWER:* | d | | *POINTS:* | 1 | | *QUESTION TYPE:* | Multiple Choice | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 61. For the multiplication of 4.769 m times 7.20 m, the result should be reported with how many significant figures?   |  |  |  | | --- | --- | --- | |  | a. | Two | |  | b. | One | |  | c. | Three | |  | d. | Four | |  | e. | Seven |  |  |  | | --- | --- | | *ANSWER:* | c | | *POINTS:* | 1 | | *QUESTION TYPE:* | Multiple Choice | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 62. For the multiplication of 7.443 m times 8.5 m, the result should be reported with how many significant figures?   |  |  |  | | --- | --- | --- | |  | a. | Two | |  | b. | One | |  | c. | Three | |  | d. | Four | |  | e. | Seven |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *QUESTION TYPE:* | Multiple Choice | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 63. For the multiplication of 4.4 m times 1.5 m, the result should be reported with how many significant figures?   |  |  |  | | --- | --- | --- | |  | a. | Two | |  | b. | One | |  | c. | Three | |  | d. | Four | |  | e. | Seven |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *QUESTION TYPE:* | Multiple Choice | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 64. For the multiplication of 4.212 m divided by 7.60 m, the result should be reported with how many significant figures?   |  |  |  | | --- | --- | --- | |  | a. | Two | |  | b. | One | |  | c. | Three | |  | d. | Four | |  | e. | Seven |  |  |  | | --- | --- | | *ANSWER:* | c | | *POINTS:* | 1 | | *QUESTION TYPE:* | Multiple Choice | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 65. For the multiplication of 2.817 m divided by 6.3 m, the result should be reported with how many significant figures?   |  |  |  | | --- | --- | --- | |  | a. | Two | |  | b. | One | |  | c. | Three | |  | d. | Four | |  | e. | Seven |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *QUESTION TYPE:* | Multiple Choice | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 66. For the multiplication of 6.3 m divided by 2.8 m, the result should be reported with how many significant figures?   |  |  |  | | --- | --- | --- | |  | a. | Two | |  | b. | One | |  | c. | Three | |  | d. | Four | |  | e. | Seven |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *QUESTION TYPE:* | Multiple Choice | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 67. When the measured quantity 45.67 kg is divided by the measured quantity 3.42 L, the answer should have how many significant figures?   |  |  |  | | --- | --- | --- | |  | a. | Three | |  | b. | One | |  | c. | Four | |  | d. | Two |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *QUESTION TYPE:* | Multiple Choice | |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 68. The natural sciences are divided into \_\_\_\_\_\_\_\_\_\_\_\_\_\_ sciences and biological sciences.   |  |  | | --- | --- | | *ANSWER:* | ​physical | | *POINTS:* | 1 | | *QUESTION TYPE:* | Subjective Short Answer | |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 69. The natural sciences are divided into physical sciences and \_\_\_\_\_\_\_\_\_\_\_\_\_\_ sciences.   |  |  | | --- | --- | | *ANSWER:* | biological | | *POINTS:* | 1 | | *QUESTION TYPE:* | Objective Short Answer | |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 70. A scientific law is a concise statement that describes a(n) \_\_\_\_\_\_\_\_\_\_\_\_\_\_ of nature.   |  |  | | --- | --- | | *ANSWER:* | relationship (or regularity) | | *POINTS:* | 1 | | *QUESTION TYPE:* | Objective Short Answer | |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 71. The scientific method holds that no theory is valid unless its predictions are in accord with \_\_\_\_\_\_\_\_\_\_\_\_\_\_.   |  |  | | --- | --- | | *ANSWER:* | experiment | | *POINTS:* | 1 | | *QUESTION TYPE:* | Objective Short Answer | |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 72. A hypothesis is a very tentative explanation of some \_\_\_\_\_\_\_\_\_\_\_\_\_\_ of nature.   |  |  | | --- | --- | | *ANSWER:* | regularity (or relationship) | | *POINTS:* | 1 | | *QUESTION TYPE:* | Objective Short Answer | |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 73. A(n) \_\_\_\_\_\_\_\_\_\_\_\_\_\_ is a tested explanation of a broad segment of basic natural phenomena.   |  |  | | --- | --- | | *ANSWER:* | theory | | *POINTS:* | 1 | | *QUESTION TYPE:* | Objective Short Answer | |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 74. A proposed concept or model of nature is tested using the \_\_\_\_\_\_\_\_\_\_\_\_\_\_.   |  |  | | --- | --- | | *ANSWER:* | scientific method | | *POINTS:* | 1 | | *QUESTION TYPE:* | Objective Short Answer | |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 75. The three fundamental quantities studied in Chapter 1 are length, mass, and \_\_\_\_\_\_\_\_\_\_\_\_\_\_.   |  |  | | --- | --- | | *ANSWER:* | time | | *POINTS:* | 1 | | *QUESTION TYPE:* | Objective Short Answer | |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 76. The measurement of space in any direction is called \_\_\_\_\_\_\_\_\_\_\_\_\_\_.   |  |  | | --- | --- | | *ANSWER:* | length | | *POINTS:* | 1 | | *QUESTION TYPE:* | Objective Short Answer | |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 77. \_\_\_\_\_\_\_\_\_\_\_\_\_\_ is the continuous forward flow of events.   |  |  | | --- | --- | | *ANSWER:* | Time | | *POINTS:* | 1 | | *QUESTION TYPE:* | Objective Short Answer | |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 78. \_\_\_\_\_\_\_\_\_\_\_\_\_\_ is a measurement of the quantity of matter.   |  |  | | --- | --- | | *ANSWER:* | Mass | | *POINTS:* | 1 | | *QUESTION TYPE:* | Objective Short Answer | |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 79. An object's \_\_\_\_\_\_\_\_\_\_\_\_\_\_would be the same on Earth and on the Moon, but its weight would be different.   |  |  | | --- | --- | | *ANSWER:* | mass | | *POINTS:* | 1 | | *QUESTION TYPE:* | Objective Short Answer | |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 80. An object's mass would be the same on Earth and on the Moon, but its \_\_\_\_\_\_\_\_\_\_\_\_\_\_ would be different.   |  |  | | --- | --- | | *ANSWER:* | weight | | *POINTS:* | 1 | | *QUESTION TYPE:* | Objective Short Answer | |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 81. In the metric mks system of units, the letter k stands for \_\_\_\_\_\_\_\_\_\_\_\_\_\_.   |  |  | | --- | --- | | *ANSWER:* | kilogram | | *POINTS:* | 1 | | *QUESTION TYPE:* | Objective Short Answer | |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 82. In the metric mks system of units, the letter m stands for \_\_\_\_\_\_\_\_\_\_\_\_\_\_.   |  |  | | --- | --- | | *ANSWER:* | meter | | *POINTS:* | 1 | | *QUESTION TYPE:* | Objective Short Answer | |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 83. In the metric mks system of units, the letter s stands for \_\_\_\_\_\_\_\_\_\_\_\_\_\_.   |  |  | | --- | --- | | *ANSWER:* | second | | *POINTS:* | 1 | | *QUESTION TYPE:* | Objective Short Answer | |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 84. Time is sometimes thought of as a fourth dimension of \_\_\_\_\_\_\_\_\_\_\_\_\_\_.   |  |  | | --- | --- | | *ANSWER:* | space | | *POINTS:* | 1 | | *QUESTION TYPE:* | Objective Short Answer | |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 85. SI stands for the \_\_\_\_\_\_\_\_\_\_\_\_\_\_ of units.   |  |  | | --- | --- | | *ANSWER:* | International System | | *POINTS:* | 1 | | *QUESTION TYPE:* | Objective Short Answer | |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 86. On a computer, a megabyte of memory is \_\_\_\_\_\_\_\_\_\_\_\_\_\_ bytes.   |  |  | | --- | --- | | *ANSWER:* | ​one million (106) | | *POINTS:* | 1 | | *QUESTION TYPE:* | Subjective Short Answer | |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 87. The meter is defined in terms of the speed of \_\_\_\_\_\_\_\_\_\_\_\_\_\_.   |  |  | | --- | --- | | *ANSWER:* | light | | *POINTS:* | 1 | | *QUESTION TYPE:* | Objective Short Answer | |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 88. A metric ton is \_\_\_\_\_\_\_\_\_\_\_\_\_\_ kg.   |  |  | | --- | --- | | *ANSWER:* | 1000 | | *POINTS:* | 1 | | *QUESTION TYPE:* | Objective Short Answer | |

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| 89. There are 10 mm in a(n) \_\_\_\_\_\_\_\_\_\_\_\_\_\_.   |  |  | | --- | --- | | *ANSWER:* | centimeter | | *POINTS:* | 1 | | *QUESTION TYPE:* | Objective Short Answer | |

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| 90. In the metric system, a penny might be called a(n) \_\_\_\_\_\_\_\_\_\_\_\_\_\_ dollar.   |  |  | | --- | --- | | *ANSWER:* | centi- | | *POINTS:* | 1 | | *QUESTION TYPE:* | Objective Short Answer | |

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| 91. The metric system is a(n)\_\_\_\_\_\_\_\_\_\_\_\_\_\_ system.   |  |  | | --- | --- | | *ANSWER:* | decimal, or base-10 | | *POINTS:* | 1 | | *QUESTION TYPE:* | Objective Short Answer | |

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| 92. The British system is a(n) \_\_\_\_\_\_\_\_\_\_\_\_\_\_ , or base-12 system.   |  |  | | --- | --- | | *ANSWER:* | duodecimal | | *POINTS:* | 1 | | *QUESTION TYPE:* | Objective Short Answer | |

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| 93. Given that 1 L = 0.266 gal, the conversion factor for converting gallons to liters would be \_\_\_\_\_\_\_\_\_\_\_\_\_\_.   |  |  | | --- | --- | | *ANSWER:* | 0.266 gal/L | | *POINTS:* | 1 | | *QUESTION TYPE:* | Objective Short Answer | |

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| 94. The ratio of mass to volume is known as \_\_\_\_\_\_\_\_\_\_\_\_\_\_.   |  |  | | --- | --- | | *ANSWER:* | density | | *POINTS:* | 1 | | *QUESTION TYPE:* | Objective Short Answer | |

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| 95. Liquid density may be measured with a(n) \_\_\_\_\_\_\_\_\_\_\_\_\_\_.   |  |  | | --- | --- | | *ANSWER:* | hydrometer | | *POINTS:* | 1 | | *QUESTION TYPE:* | Objective Short Answer | |

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| 96. The standard unit of mass in the SI is the \_\_\_\_\_\_\_\_\_\_\_\_\_\_.   |  |  | | --- | --- | | *ANSWER:* | kilogram | | *POINTS:* | 1 | | *QUESTION TYPE:* | Objective Short Answer | |

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| 97. One liter of pure water at its maximum density has a mass of 1 \_\_\_\_\_\_\_\_\_\_\_\_\_\_.   |  |  | | --- | --- | | *ANSWER:* | kg | | *POINTS:* | 1 | | *QUESTION TYPE:* | Objective Short Answer | |

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| 98. The unit of density in the mks system is \_\_\_\_\_\_\_\_\_\_\_\_\_\_.   |  |  | | --- | --- | | *ANSWER:* | kg/m3​ | | *POINTS:* | 1 | | *QUESTION TYPE:* | Subjective Short Answer | |

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| 99. A set value for a fundamental quantity is called a(n) \_\_\_\_\_\_\_\_\_\_\_\_\_\_ unit.   |  |  | | --- | --- | | *ANSWER:* | standard | | *POINTS:* | 1 | | *QUESTION TYPE:* | Objective Short Answer | |

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| 100. A combination of one or more fundamental units is called a(n) \_\_\_\_\_\_\_\_\_\_\_\_\_\_ unit.   |  |  | | --- | --- | | *ANSWER:* | derived | | *POINTS:* | 1 | | *QUESTION TYPE:* | Objective Short Answer | |

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| 101. A(n) \_\_\_\_\_\_\_\_\_\_\_\_\_\_ is a comparison of an unknown physical quantity with the standard unit.   |  |  | | --- | --- | | *ANSWER:* | measurement | | *POINTS:* | 1 | | *QUESTION TYPE:* | Objective Short Answer | |

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| 102. A liter has a volume of \_\_\_\_\_\_\_\_\_\_\_\_\_\_ cubic centimeters.   |  |  | | --- | --- | | *ANSWER:* | 1000 | | *POINTS:* | 1 | | *QUESTION TYPE:* | Objective Short Answer | |

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| 103. Which is longer, a meter or a yard?   |  |  | | --- | --- | | *ANSWER:* | A meter | | *POINTS:* | 1 | | *QUESTION TYPE:* | Objective Short Answer | |

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| 104. Which is larger, a liter or a quart?   |  |  | | --- | --- | | *ANSWER:* | A liter | | *POINTS:* | 1 | | *QUESTION TYPE:* | Objective Short Answer | |

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| 105. In ratio form, the equivalence statement 1 mi = 1.61 km would be expressed as \_\_\_\_\_\_\_\_\_\_\_\_\_\_.   |  |  | | --- | --- | | *ANSWER:* | 1.61 km/mi (or 1 mi/1.61 km) | | *POINTS:* | 1 | | *QUESTION TYPE:* | Objective Short Answer | |

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| 106. For the multiplication of 8.704 m × 3.14 m, the result should be reported with \_\_\_\_\_\_\_\_\_\_\_\_\_\_ significant figures.   |  |  | | --- | --- | | *ANSWER:* | three | | *POINTS:* | 1 | | *QUESTION TYPE:* | Objective Short Answer | |

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| 107. If the decimal point is shifted to the left in a number expressed in powers-of-10 notation, the exponent, or power of 10, is \_\_\_\_\_\_\_\_\_\_\_\_\_\_.   |  |  | | --- | --- | | *ANSWER:* | increased | | *POINTS:* | 1 | | *QUESTION TYPE:* | Objective Short Answer | |

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| 108. If the decimal point is shifted to the right in a number expressed in powers-of-10 notation, the exponent, or power of 10, is \_\_\_\_\_\_\_\_\_\_\_\_\_\_.   |  |  | | --- | --- | | *ANSWER:* | decreased | | *POINTS:* | 1 | | *QUESTION TYPE:* | Objective Short Answer | |

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| 109. A student's height is 170 cm. Determine that student's height in inches.   |  |  | | --- | --- | | *ANSWER:* | 66.9 in. | | *POINTS:* | 1 | | *QUESTION TYPE:* | Objective Short Answer | |

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| 110. A friend from Europe asks what the length of a 100-yd football field would be in meters. After doing the conversion, what would you tell her?   |  |  | | --- | --- | | *ANSWER:* | 91.4 m | | *POINTS:* | 1 | | *QUESTION TYPE:* | Objective Short Answer | |

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| 111. How long is a 10.0-ft pole in meters?   |  |  | | --- | --- | | *ANSWER:* | 3.05 m | | *POINTS:* | 1 | | *QUESTION TYPE:* | Objective Short Answer | |

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| --- | --- | --- | --- | --- | --- | --- |
| 112. A cubic container 20 cm on a side is filled with water. What is the mass of the water?   |  |  | | --- | --- | | *ANSWER:* | 8 kg | | *POINTS:* | 1 | | *QUESTION TYPE:* | Objective Short Answer | |

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| 113. Dry air has a density of 1.29 kg/m3. What would be the volume of a metric ton of air?   |  |  | | --- | --- | | *ANSWER:* | 775 m3​ | | *POINTS:* | 1 | | *QUESTION TYPE:* | Subjective Short Answer | |

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| 114. Perform the operation of 147.02/0.338, and report the result with the proper number of significant figures in standard powers-of-10 notation.   |  |  | | --- | --- | | *ANSWER:* | 4.35 ´ 102 | | *POINTS:* | 1 | | *QUESTION TYPE:* | Subjective Short Answer | |

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| --- | --- | --- | --- | --- | --- | --- |
| 115. Express 100 megadollars in standard powers-of-10 notation.   |  |  | | --- | --- | | *ANSWER:* | 1.0 ´ 108 dollars​ | | *POINTS:* | 1 | | *QUESTION TYPE:* | Subjective Short Answer | |

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| 116. Calculate the product of 2.1 × 102 and 1.9 × 107. Express the answer in standard powers-of-10 notation.   |  |  | | --- | --- | | *ANSWER:* | 3.99 ´ 109​ | | *POINTS:* | 1 | | *QUESTION TYPE:* | Subjective Short Answer | |

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| 117. Calculate the approximate number of seconds that a(n) 30-year-old student has lived.   |  |  | | --- | --- | | *ANSWER:* | 9.5 ´ 108 s​ | | *POINTS:* | 1 | | *QUESTION TYPE:* | Subjective Short Answer | |

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| --- | --- | --- | --- | --- | --- | --- |
| 118. If there are 2.54 cm/in., how many inches are there per centimeter?   |  |  | | --- | --- | | *ANSWER:* | 1/2.54 = 0.394 | | *POINTS:* | 1 | | *QUESTION TYPE:* | Objective Short Answer | |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 119. Write 0.000852 in standard powers-of-10 notation.   |  |  | | --- | --- | | *ANSWER:* | 8.52 ´ 10–4​ | | *POINTS:* | 1 | | *QUESTION TYPE:* | Subjective Short Answer | |

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| --- | --- | --- | --- | --- | --- | --- |
| 120. What does 4 × 10-12 times 3 × 10-8 divided by 2 × 1024 equal?   |  |  | | --- | --- | | *ANSWER:* | 6 ´ 10–44​ | | *POINTS:* | 1 | | *QUESTION TYPE:* | Subjective Short Answer | |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 121. What does 6 × 1012 times 3 × 10-9 divided by 2 × 10-17 equal?   |  |  | | --- | --- | | *ANSWER:* | 9 ´ 1020​ | | *POINTS:* | 1 | | *QUESTION TYPE:* | Subjective Short Answer | |